

	Document ID	Title
1	US 20050009949 A1	Process for producing biodegradable polyester
2	US 20050009157 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
3	US 20050009156 A1	Polyhydroxyalkanoate synthase and gene encoding the same
4	US 20050009155 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
5	US 20040185047 A1	Anti- TNF antibodies, compositions, methods and uses
6	US 20040146998 A1	Transformant and process for producing polyester by using the same
7	US 20040018593 A1	Anti-RELP fusion antibodies, compositions, methods and uses
8	US 20030233677 A1	Modification of fatty acid metabolism in plants
9	US 20030228669 A1	Transgenic microbial polyhydroxyalkanoate producers
10	US 20030167532 A1	OAR polynucleotides, polypeptides and their use in PHA production in plants
11	US 20030124692 A1	Polyhydroxyalkanoate synthase and gene encoding the same
12	US 20030092141 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
13	US 20030087413 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
14	US 20030082777 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
15	US 20030077746 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme

	Document ID	Title
16	US 20030073147 A1	Method and device for trichomonas detection
17	US 20030049806 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
18	US 20020098565 A1	Polyhydroxyalkanoate synthase and gene encoding the same
19	US 20010055795 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
20	US 20010053544 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
21	US 20010046692 A1	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
22	US 6812013 B2	Polyhydroxyalkanoate synthase and gene encoding the same
23	US 6808910 B2	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
24	US 6806401 B2	OAR polynucleotides, polypeptides and their use in PHA production in plants
25	US 6803220 B2	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
26	US 6803219 B2	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
27	US 6620601 B1	Methods for transformation of plants, transformed plants and processes for preparation of polyesters
28	US 6593116 B1	Transgenic microbial polyhydroxyalkanoate producers
29	US 6586658 B1	Modification of fatty acid metabolism in plants
30	US 6492134 B1	Method for producing polyhydroxyalkanoates in recombinant organisms

	Document ID	Title
31	US 6485951 B2	Polyhydroxyalkanoate synthase and gene encoding the same enzyme
32	US 6475734 B1	Polyhydroxyalkanoate synthase genes
33	US 5981257 A	Polyester synthase gene and process for producing polyester

FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 13:17:56 ON 26 JAN 2005

L1 3667 S HANSENULA  
L2 5066 S KLUYVEROMYCES  
L3 428 S PHAFFIA  
L4 9018 S PICHIA  
L5 18308 S SCHIZOSACCHAROMYCES  
L6 464 S SCHWANNIOMYCES  
L7 3651 S TRICHOSPORON  
L8 1888 S YARROWIA  
L9 108789 S CANDIDA  
L10 34269 S "RECOMBINANT PROTEIN EXPRESSION" OR "RECOMBINANT PROTEIN"  
L11 1737 S CHEMICAL PRODUC?  
L12 41518 S POLYESTER OR HYDROXYALKAN? OR HYDROXYBUT? OR HYDROXYHEXAN?  
L13 107713 S ENZYM? (S) SYNTHESIS  
L14 160 S (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9) A  
L15 108 DUP REM L14 (52 DUPLICATES REMOVED)  
L16 3 S POLYHYDROXYALKANOATE  
L17 2 DUP REM L16 (1 DUPLICATE REMOVED)  
L18 1670 S POLYHYDROXYALKAN?  
L19 2 S L15 AND L18  
L20 5 S L18 AND (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 O  
L21 3 DUP REM L20 (2 DUPLICATES REMOVED)  
L22 968 S L12 AND L18  
L23 1 S L22 AND L10  
L24 189297 S (TRANSFORM? OR TRANSDUCED) (S) CELL  
L25 661 S L24 AND (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 O  
L26 2 S L25 AND L12  
L27 2 DUP REM L26 (0 DUPLICATES REMOVED)

L19 ANSWER 1 OF 2 MEDLINE on STN  
 ACCESSION NUMBER: 2002154632 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 11886758  
 TITLE: Synthesis of **polyhydroxyalkanoate** in the  
 peroxisome of **Pichia pastoris**.  
 AUTHOR: Poirier Yves; Erard Nadine; MacDonald-Comber Petetot Jean  
 CORPORATE SOURCE: Laboratoire de Biotechnologie Vegetale, Institut  
 d'Ecologie, Universite de Lausanne, CH-1015 Lausanne,  
 Switzerland.. yves.poirier@ie-bpv.unil.ch  
 SOURCE: FEMS microbiology letters, (2002 Jan 22) 207 (1) 97-102.  
 Journal code: 7705721. ISSN: 0378-1097.  
 PUB. COUNTRY: Netherlands  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200204  
 ENTRY DATE: Entered STN: 20020312  
 Last Updated on STN: 20020501  
 Entered Medline: 20020430

AB **Polyhydroxyalkanoates** (PHAs) are polyesters naturally produced  
 by bacteria that have properties of biodegradable plastics and elastomers.  
 A PHA synthase from *Pseudomonas aeruginosa* modified at the carboxy-end for  
 peroxisomal targeting was transformed in **Pichia pastoris**. The  
 PHA synthase was expressed under the control of the promoter of the *P.*  
*pastoris* acyl-CoA oxidase gene. Synthesis of up to 1% medium-chain-length  
 PHA per g dry weight was dependent on both the expression of the PHA  
 synthase and the presence of oleic acid in the medium. PHA accumulated as  
 inclusions within the peroxisomes. *P. pastoris* could be used as a model  
 system to study how peroxisomal metabolism needs to be modified to  
 increase PHA production in other eukaryotes, such as plants.

L19 ANSWER 2 OF 2 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
 on STN

ACCESSION NUMBER: 2003230423 EMBASE  
 TITLE: Biodegradation of microbial and synthetic polyesters by  
 fungi.  
 AUTHOR: Kim D.Y.; Rhee Y.H.  
 CORPORATE SOURCE: Y.H. Rhee, Department of Microbiology, Chungnam National  
 University, Daejeon 305-764, Korea, Republic of.  
 yhrhee@cnu.ac.kr  
 SOURCE: Applied Microbiology and Biotechnology, (2003) 61/4  
 (300-308).  
 Refs: 84

ISSN: 0175-7598 CODEN: AMBIDG  
 COUNTRY: Germany  
 DOCUMENT TYPE: Journal; (Short Survey)  
 FILE SEGMENT: 004 Microbiology  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AB A variety of biodegradable polyesters have been developed in order to  
 obtain useful biomaterials and to reduce the impact of environmental  
 pollution caused by the large-scale accumulation of non-degradable waste  
 plastics. **Polyhydroxyalkanoates**, poly( $\epsilon$ -caprolactone),  
 poly(L-lactide), and both aliphatic and aromatic polyalkylene dicarboxylic  
 acids are examples of biodegradable polyesters. In general, most aliphatic  
 polyesters are readily mineralized by a number of aerobic and anaerobic  
 microorganisms that are widely distributed in nature. However, aromatic  
 polyesters are more resistant to microbial attack than aliphatic  
 polyesters. The fungal biomass in soils generally exceeds the bacterial  
 biomass and thus it is likely that fungi may play a considerable role in  
 degrading polyesters, just as they predominantly perform the decomposition

of organic matter in the soil ecosystem. However, in contrast to bacterial **polyester** degradation, which has been extensively investigated, the microbiological and environmental aspects of fungal degradation of polyesters are unclear. This review reports recent advances in our knowledge of the fungal degradation of microbial and synthetic polyesters and discusses the ecological importance and contribution of fungi in the biological recycling of waste polymeric materials in the biosphere.

=>

ANSWER 1 OF 9 MEDLINE on STN DUPLICATE 1  
 ACCESSION NUMBER: 2003176912 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 12694440  
 TITLE: Non-conventional methods for the control of post-harvest  
 pear diseases.  
 AUTHOR: Mari M; Bertolini P; Pratella G C  
 CORPORATE SOURCE: CRIOF, University of Bologna, V. Gandolfi, Cadriano,  
 Bologna, Italy.. mari@agrsci.unibo.it  
 SOURCE: Journal of applied microbiology, (2003) 94 (5) 761-6. Ref:  
 56  
 Journal code: 9706280. ISSN: 1364-5072.  
 PUB. COUNTRY: England: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 General Review; (REVIEW)  
 (REVIEW, TUTORIAL)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200307  
 ENTRY DATE: Entered STN: 20030417  
 Last Updated on STN: 20030730  
 Entered Medline: 20030729

AB Pears are highly perishable products, especially during the post-harvest phase, when considerable losses can occur. Among the fungal diseases, blue mold caused by *Penicillium expansum*, grey mould caused by *Botrytis cinerea*, Mucor rot caused by *Mucor piriformis* are common on pear fruits. Other (weak) pathogens like *Phialophora malorum*, *Alternaria* spp., and *Cladosporium herbarum* tend to infect wounds and senescent fruits. A post-harvest fungicide treatment can reduce decay but effectiveness decreases with the appearance of resistant strains. There is a clear need to develop new and alternative methods of controlling post-harvest diseases. The emerging technologies for the control of post-harvest fungal diseases are essentially threefold: application of antagonistic microorganisms, application of natural antimicrobial substances and application of sanitizing products. Two biological control products, Aspire (*Candida oleophila* I-182) (Ecogen, Langhorne, PA, USA) and Bio-Save 110 (*Pseudomonas syringae*) (EcoScience, Worcester, MA, USA; formerly Bio-Save 11) are currently registered in the USA for post-harvest application to pears. Other potential biocontrol agents have been isolated from fruit and shown to suppress post-harvest decay in pear. It is important that evaluation of these microorganisms be carried out in a product formulation because the formulation may improve or diminish antagonistic efficacy depending on the concentration of **chemical product** and the duration of exposure to the treatment. Plants produce a large number of secondary metabolites with antimicrobial effects on post-harvest pathogens. Detailed studies have been conducted on aromatic compounds, essential oils, volatile substances and isothiocyanates, with encouraging results. In particular, allyl-isothiocyanate used as a volatile substance, controls blue mould in 'Conference' and 'Kaiser' pear inoculated with a thiabendazole-resistant strain. Sanitizing products such as chlorine dioxide, peracetic acid and ozone have considerable fungicidal activity against *P. expansum* and *M. piriformis*, depending on the concentration of **chemical product** and the duration of exposure to the treatment. Sanitizing solutions can be integrated easily with current handling and storage practices; however, further research is required to define the effective procedures better.

L24 ANSWER 2 OF 9 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
 on STN DUPLICATE 2  
 ACCESSION NUMBER: 2004053946 EMBASE  
 TITLE: Screening of new antifungal compounds in a collection of  
**chemical products.**

AUTHOR: Lemriss S.; Marquet B.; Ginestet H.; Lefeuvre L.; Fassouane A.; Boiron P.  
 CORPORATE SOURCE: P. Boiron, Center for Microbial Ecology, Faculte de Pharmacie, Universite Claude Bernard Lyon 1, 8, avenue Rockefeller, 69373 Lyon Cedex 08, France  
 SOURCE: Journal de Mycologie Medicale, (2003) 13/4 (189-192).  
 Refs: 11  
 ISSN: 1156-5233 CODEN: JMYME5  
 COUNTRY: France  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 004 Microbiology  
 037 Drug Literature Index  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English; French

AB The antifungal activity of eighteen synthetic compounds belonging to a collection of **chemical products** has been tested against six fungal species [*Candida albicans* ATCC 10231, *Candida tropicalis* R2 CIP 1275.81 (an amphotericin B-nystatin resistant strain), *Aspergillus fumigatus* CIP 1082.74, *Aspergillus niger* ATCC 16404, *Fusarium oxysporum* CIP 625.72 and *Trichophyton rubrum* CIP 2043.92] using the agar disk method and two test media (casitone medium and YMA medium). Ten **chemical products** (55% of the synthetic compounds tested) were shown to have an antifungal activity. Among them, one compound called M1 showed a strong antifungal activity against all fungi tested. The antifungal activity of M1 was further characterized by determining the minimum inhibitory concentration (MIC) against the six fungal species selected using broth microdilution method and also two test media described above. The susceptibility of *C. tropicalis* R2 CIP 1275.81 and *F. oxysporum* CIP 625.72 was better for the M1 product than amphotericin B on both test media. Furthermore, M1 was more active than amphotericin B in inhibiting growth on YMA medium for *C. albicans* ATCC 10231 and *A. fumigatus* CIP 1082.74, but for *A. niger* ATCC 16404, best inhibition was observed on casitone medium. Moreover, according to literature the MIC of M1 was remarkable in comparison to the antifungal agents currently available for clinical use other than amphotericin B. These promising in vitro data open the way to further investigations to study toxicity and in vivo antifungal activity.

L24 ANSWER 3 OF 9 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
 ACCESSION NUMBER: 2000:296489 BIOSIS  
 DOCUMENT NUMBER: PREV200000296489  
 TITLE: Isolation of thermotolerant ethanologenic yeasts and use of selected strains in industrial scale fermentation in an Egyptian distillery.  
 AUTHOR(S): Abdel-Fattah, W. R.; Fadil, M.; Nigam, P.; Banat, I. M.  
 [Reprint author]  
 CORPORATE SOURCE: Biotechnology Research Group, University of Ulster, Coleraine, BT52 1SA, UK  
 SOURCE: Biotechnology and Bioengineering, (June 5, 2000) Vol. 68, No. 5, pp. 531-535. print.  
 CODEN: BIBIAU. ISSN: 0006-3592.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 ENTRY DATE: Entered STN: 12 Jul 2000  
 Last Updated on STN: 7 Jan 2002

AB An enrichment and isolation program for new ethanol-producing thermotolerant yeasts as well as a screening program of some known thermotolerant strains resulted in the selection of several strains capable of growth at 40-43degreeC. Among these strains four grew and fermented sugar cane molasses at 43degreeC under batch conditions with sugar-conversion efficiencies >94% and ethanol concentrations 6.8-8.0% (w/v). The two best-performing strains, a *Saccharomyces cerevisiae* F111



and a *Kluyveromyces marxianus* WR12 were used in eight 87.5 m3 fermentation runs (four using each strain) for industrial ethanol production in an Egyptian distillery using sugar cane molasses. Mean ethanol production was 7.7% and 7.4% (w/v), respectively, with an added advantage of cooling elimination during fermentation and higher ethanol yields compared to the distillery's *S. cerevisiae* SIIC (ATCC 24855) strain in use. The isolate *S. cerevisiae* F111 was subsequently adopted by the distillery for regular production with significant economical gains and water conservation.

L24 ANSWER 4 OF 9 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
ACCESSION NUMBER: 2000:324674 BIOSIS  
DOCUMENT NUMBER: PREV200000324674  
TITLE: Biosynthesis of citric acid by *Yarrowia*  
lipolytica repeat-batch culture on ethanol.  
AUTHOR(S): Arzumanov, T. E.; Shishkanova, N. V.; Finogenova, T. V.  
[Reprint author]  
CORPORATE SOURCE: IBPM, p-t Nauki 5, Pushchino, Moscow region, 142290, Russia  
SOURCE: Applied Microbiology and Biotechnology, (May, 2000) Vol.  
53, No. 5, pp. 525-529. print.  
CODEN: AMBIDG. ISSN: 0175-7598.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 2 Aug 2000  
Last Updated on STN: 7 Jan 2002

AB After analysis of batch culture and identification of the ways for prolongation of citric acid active synthesis by yeast, repeat-batch (RB) cultivation was suggested. *Yarrowia lipolytica* strain RB cultivation was studied and optimal conditions for cultivation selected. It was shown that when applying RB cultivation, better results were obtained than for batch cultivation. The activity of the culture remained stable after cultivation for more than 700 h. Comparative analysis of enzyme activities confirmed the regularity of the effect described, as the activity of practically of all the enzymes participating in ethanol oxidation and citric acid biosynthesis remained stable over time during RB cultivation. Advantages of RB cultivation for the production of citric acid by yeast are discussed.

L24 ANSWER 5 OF 9 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
ACCESSION NUMBER: 1996:122057 BIOSIS  
DOCUMENT NUMBER: PREV199698694192  
TITLE: Production of D-beta-hydroxyisobutyric acid from isobutyric acid by *Candida rugosa*.  
AUTHOR(S): Lee, In Young; Hong, Won Kyoung; Hwang, Young Bo; Kim, Chul Ho; Choi, Eui Sung; Rhee, Sang Ki; Park, Young Hoon  
[Reprint author]  
CORPORATE SOURCE: Korea Res. Inst. Biosci. Biotechnol., KIST, P.O. Box 115, Yusong, Taejon, South Korea  
SOURCE: Journal of Fermentation and Bioengineering, (1996) Vol. 81, No. 1, pp. 79-82.  
CODEN: JFBIEX. ISSN: 0922-338X.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 27 Mar 1996  
Last Updated on STN: 2 May 1996

AB Production of D-beta-hydroxyisobutyric acid (D-HIBA) from isobutyric acid (IBA) was investigated using *Candida rugosa* IFO 0750. Cell growth and D-HIBA production decreased as the substrate concentration increased. A considerable degradation of D-HIBA was observed when the substrate, IBA, was depleted in the medium. Specific production rate Of D-HIBA increased as glucose concentration decreased, while the conversion yield of IBA to D-HIBA showed an opposite trend. With a controlled

feeding of IBA and glucose, a high titer of D-HIBA (100 g/l) could be obtained by a fed-batch cultivation of **Candida rugosa**.

L24 ANSWER 6 OF 9 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
ACCESSION NUMBER: 1995:483292 BIOSIS  
DOCUMENT NUMBER: PREV199598497592  
TITLE: Catabolite repression of induction of aldose reductase activity and utilization of mixed hemicellulosic sugars in **Candida guilliermondii**.  
AUTHOR(S): Sugai, Juliet K.; Delgenes, Jean-Philippe [Reprint author]  
CORPORATE SOURCE: Lab. Biotechnol. l'Environnement, INRA, Ave. Etangs, 11100 Narbonne, France  
SOURCE: Current Microbiology, (1995) Vol. 31, No. 4, pp. 239-244. CODEN: CUMIDD. ISSN: 0343-8651.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 9 Nov 1995  
Last Updated on STN: 9 Nov 1995

AB NADPH-dependent aldose reductase activity induced by D-xylose or L-arabinose was detected in cell-free extracts of **Candida guilliermondii**, but only negligible activities were observed if D-glucose served as carbon source. The induction of aldose reductase activity on mixed sugars was investigated under resting cell conditions. D-Glucose repressed enzyme induction by D-xylose or L-arabinose to varying degrees, and L-arabinose inhibited enzyme induction by D-xylose. During incubation in a mixture of D-xylose-D-glucose, glucose consumption by cells was fast and simultaneous with D-xylose utilization. Repression of D-Xylose consumption by D-glucose was dependent on hexose initial concentration. L-arabinose consumption was poor when it was present as the only sugar and in a mixture With D-glucose; this pentose depletion occurred only when all hexose was consumed. When D-xylose and L-arabinose were present in a mixture, the consumption of both pentoses was reduced by the presence of the second sugar, although both sugars were consumed simultaneously by cells. The results show that induction of aldose reductase activity and D-xylose utilization by cells of **Candida guilliermondii** are under control of glucose repression.

L24 ANSWER 7 OF 9 MEDLINE on STN DUPLICATE 3  
ACCESSION NUMBER: 95110887 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 7811770  
TITLE: [Identification of yeasts of the **Candida** genus with a growth inhibition system: Microring YT].  
Identificacion de levaduras del genero **Candida** por un sistema de inhibicion del crecimiento: Microring YT.  
AUTHOR: Torres-Rodriguez J M; Montsant-Montane L; Madrenys-Brunet N  
CORPORATE SOURCE: Unitat de Microbiologia, IMIM, Universitat Autonoma de Barcelona.  
SOURCE: Enfermedades infecciosas y microbiologia clinica, (1994 Nov) 12 (9) 439-42.  
Journal code: 9104081. ISSN: 0213-005X.  
PUB. COUNTRY: Spain  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: Spanish  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199502  
ENTRY DATE: Entered STN: 19950217  
Last Updated on STN: 19950217  
Entered Medline: 19950209

AB BACKGROUND: It has been observed an spectacular increasing of opportunistic **Candida** yeast infections. Many of them are fatal, and rapid and effective identification of the infecting species contributes to start the correct treatment. Several new methods for yeast

identification have become available; Microring YT is one of these methods based on the growth inhibition by 6 different **chemical products**. The aim of this work is to study the performance of the test using representative clinical yeast isolates. METHODS: A total of 146 strains belonging to the 5 most common **Candida** species isolated in the clinical laboratory were identified using conventional methods (germ tube and chlamydospores production, and the standard API 20C AUX and 16 sugars auxonography; Institute Pasteur) and the Microring YT System. This test uses the differing susceptibilities of yeast to 6 discs mounted on a filter paper ring. The **chemical products** and dyes are: janus green, ethidium bromide, triphenyl tetrazolium chloride, brilliant green, cycloheximide and rhodamine 6G. The inhibition pattern of a 6 digit code is compared with a list of profiles. RESULTS: Using the Microring YT system 112 of the 146 studied strains were correctly identified with an overall concordance of 77% between this method and the standard one. The morphological study (germ tube production) increased 6% the identification of **Candida albicans**. Better results were obtained with *C. krusei* and *C. parapsilosis* (85% of concordance). With *C. glabrata* only 59% of concordance was found. CONCLUSIONS: In spite Microring YT is a simple method, easy to perform and read, it was considered inadequate for the identification of **Candida** species as a routine microbiological procedure.

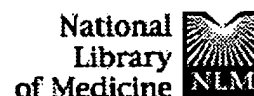
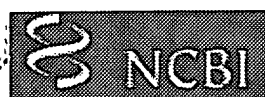
L24 ANSWER 8 OF 9 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
 ACCESSION NUMBER: 1991:150129 BIOSIS  
 DOCUMENT NUMBER: PREV199140069734; BR40:69734  
 TITLE: EMERGING APPLICATIONS OF THE METHYLOTROPHIC YEASTS.  
 AUTHOR(S): WEGNER G H [Reprint author]  
 CORPORATE SOURCE: RES DEV, PHILLIPIS PETROLEUM CO, BARTLESVILLE, OKLA 74004, USA  
 SOURCE: FEMS Microbiology Reviews, (1990) Vol. 87, No. 3-4, pp. 279-284.  
 Meeting Info.: 6TH INTERNATIONAL SYMPOSIUM ON MICROBIAL GROWTH ON C1-COMPOUNDS, GOETTINGEN, WEST GERMANY, AUGUST 20-25, 1989. FEMS (FED EUR MICROBIOL SOC) MICROBIOL REV. CODEN: FMREE4. ISSN: 0168-6445.  
 DOCUMENT TYPE: Conference; (Meeting)  
 FILE SEGMENT: BR  
 LANGUAGE: ENGLISH  
 ENTRY DATE: Entered STN: 23 Mar 1991  
 Last Updated on STN: 23 Mar 1991

L24 ANSWER 9 OF 9 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
 ACCESSION NUMBER: 1988:137771 BIOSIS  
 DOCUMENT NUMBER: PREV198885072598; BA85:72598  
 TITLE: INDUCTION OF XYLOSE REDUCTASE AND XYLITOL DEHYDROGENASE ACTIVITIES IN PACHYSOLEN-TANNOPHILUS AND **PICHIA** -STIPITIS ON MIXED SUGARS.  
 AUTHOR(S): BICHO P A [Reprint author]; RUNNALS P L; CUNNINGHAM J D; LEE H  
 CORPORATE SOURCE: DEP ENVIRON BIOL, UNIV GUELPH, GUELPH, ONTARIO, CANADA N1G 2W1  
 SOURCE: Applied and Environmental Microbiology, (1988) Vol. 54, No. 1, pp. 50-54.  
 CODEN: AEMIDF. ISSN: 0099-2240.  
 DOCUMENT TYPE: Article  
 FILE SEGMENT: BA  
 LANGUAGE: ENGLISH  
 ENTRY DATE: Entered STN: 12 Mar 1988  
 Last Updated on STN: 12 Mar 1988

AB The induction of xylose reductase and xylitol dehydrogenase activities on mixed sugars was investigated in the yeasts *Pachysolen tannophilus* and

**Pichia stipitis.** Enzyme activities induced on D-xylose served as the controls. In both yeasts, D-glucose, D-mannose, and 2-deoxyglucose inhibited enzyme induction by D-xylose to various degrees. Cellobiose, L-arabinose, and D-galactose were not inhibitory. In liquid batch culture, *P. tannophilus* utilized D-glucose and D-mannose rapidly and preferentially over D-xylose, while D-galactose consumption was poor and lagged behind that of the pentose sugar. In *P. stipitis*, all three hexoses were used preferentially over D-xylose. The results showed that the repressibility of xylose reductase and xylitol dehydrogenase may limit the potential of yeast fermentation of pentose sugars in hydrolysates of lignocellulosic substrates.

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ClinicalTrials.gov  
PubMed Central☐ 1: [Mattanovich D, Gasser B, Hohenblum H, Sauer M.](#) Related Articles, Lin Stress in recombinant protein producing yeasts.  
J Biotechnol. 2004 Sep 30;113(1-3):121-35. Review.  
PMID: 15380652 [PubMed - indexed for MEDLINE]☐ 2: [Porro D, Mattanovich D.](#) Related Articles, Lin Recombinant protein production in yeasts.  
Methods Mol Biol. 2004;267:241-58. Review.  
PMID: 15269428 [PubMed - indexed for MEDLINE]☐ 3: [Palomares LA, Estrada-Mondaca S, Ramirez OT.](#) Related Articles, Lin Production of recombinant proteins: challenges and solutions.  
Methods Mol Biol. 2004;267:15-52. Review.  
PMID: 15269414 [PubMed - indexed for MEDLINE]☐ 4: [Olsen D, Yang C, Bodo M, Chang R, Leigh S, Baez J, Carmichael D, Perala M, Hamalainen ER, Jarvinen M, Polarek J.](#) Related Articles, Lin Recombinant collagen and gelatin for drug delivery.  
Adv Drug Deliv Rev. 2003 Nov 28;55(12):1547-67. Review.  
PMID: 14623401 [PubMed - indexed for MEDLINE]☐ 5: [Huang BR, Cai LW, Xiang XZ.](#) Related Articles, Lin [The basic and applied study on the epidermal growth factor]  
Zhongguo Yi Xue Ke Xue Yuan Xue Bao. 2001 Apr;23(2):176-80. Review. Chinese.  
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